

ABSTRACT

A ramp generator includes an array of capacitors having a common top plate that provides a ramp output signal. Each of the capacitors has a bottom plate switched sequentially between a low reference voltage and a high reference voltage in response to a value in a shift register. For an upward ramp, capacitors can be switched to their high reference voltages in succession, increasing the output voltage on the common top plate; for a downward ramp, capacitors can be switched to their low reference voltages in succession, decreasing the output voltage. The capacitors can be switched by a multi-bit shift register, each bit of which controls one capacitor's voltage. Each time a clock signal is applied to the shift register, a value in the shift register shifts another capacitor between its low and high reference voltages.